IN THE CLAIMS:

Please amend claims 1-9 as follows, and cancel claims 10-12 without prejudice.

1. (Currently amended) An optical single-sideband modulated wave generator, comprising:

optical modulator means for amplitude modulating an optical carrier by an electric modulation signal to obtain an optical double-sideband modulated signal, and

optical signal sideband suppressor means for suppressing either one of the sidebands of said optical double-sideband modulated signal to derive therefrom an optical single-sideband modulated signal;

said optical modulator means, comprising:

an optical carrier terminal for receiving said optical carrier;

an electrical modulation signal terminal for receiving said electric modulation signal;

~~at least one~~ optical amplitude modulator means for amplitude-modulating said optical carrier ~~by~~ with said electric modulation signal to obtain said optical double-sideband modulated signal;

a two-output waveguide optical branching unit for branching the input to or output from said optical amplitude modulator into first optical waveguide path and second optical waveguide path; and

at least one optical-carrier phase shifter disposed in at least one of said first optical

waveguide path and second optical waveguide path, for phase shifting said optical carrier ~~as~~ by a required amount of phase shift;

wherein first optical double-sideband modulated signal and second optical double-sideband modulated signal are ~~provided~~ obtained at the outputs of said first outputs of said first optical waveguide path and said second optical waveguide path~~, respectively~~;

said optical signal sideband suppressor means, comprising:

optical combiner means for combining said first optical double-sideband modulated signal and said second optical double-sideband modulated signal;

wherein said required phase shift by said optical-carrier phase shifter is defined such that optical carrier signals of said first optical double-sideband modulated signal and said second optical double-sideband modulated signal have a relative phase difference of 90° when said first optical double-sideband modulated signal and said second optical double-sideband modulated signal are combined in said optical combiner means;

wherein a baseband-signal-component 90° phase shifter is ~~provided~~ disposed in one of said first and second optical waveguide paths to ~~provide~~ obtain a 90° phase difference between a base band signal component ~~in~~ of said optical double-sideband modulated signal ~~from~~ on said one of said first optical waveguide path and said second optical waveguide path and a base band signal component in said optical double-sideband modulated signal ~~from~~ on the other of said first optical waveguide path and said second optical waveguide path, when said first and second optical double-sideband modulated signals are combined in said optical combiner means; and

wherein an optical delay circuit is ~~provided~~ disposed in the other of ~~aid~~ said first optical waveguide path and said second optical waveguide path to delay said optical double-sideband modulated signal ~~from~~ on said other optical waveguide path ~~for~~ by a predetermined time ~~provided~~ length in said baseband-signal-component 90° phase shifter.

2. (Currently amended) An optical single-sideband-modulated signal generator according to claim 1, characterized in that:

said optical modulator means comprises:

an optical carrier terminal for receiving said optical carrier;

an electric modulation signal terminal to receiving said electric modulation signal;

a two-output waveguide optical branching unit for branching said light carrier wave from said optical carrier terminal into first optical waveguide path and second optical waveguide path;

first optical amplitude modulator ~~mans~~ means and second optical amplitude modulator ~~mans placed~~ means disposed in said first optical waveguide path and second optical waveguide path, respectively, for amplitude-modulating , with said electric modulation signal, said optical carriers branched from said two-output waveguide optical branching unit by said electric modulation signal to obtain first optical double-sideband modulated signal and second optical double-modulated signal; and

at least one optical-carrier phase shifter disposed in at least one of said first optical

waveguide path and second optical waveguide path, for phase-shifting said optical carrier by said required amount of phase shift ~~as required~~;

wherein said first optical double-sideband optical modulated signal is obtained at the output of the first optical waveguide path, while the second optical double-modulated signal is provided at the output of said second optical waveguide path.

3. (Currently amended) An optical single-sideband modulated wave generator according to claim 1, characterized in that:

said optical modulator means comprises:

an optical carrier terminal for receiving said optical carrier;

an electrical modulation signal terminal for receiving said electric modulation signal;

optical amplitude modulator means for amplitude-modulating said optical carrier ~~by~~ with said electric modulation signal to obtain said optical double-sideband modulated signal;

a two-output waveguide optical branching unit for branching said optical double-sideband modulated signal from said optical amplitude modulator means to ~~provide~~ obtain first optical double-sideband modulated signal and second optical double-sideband modulated signal ~~to~~ on first optical waveguide path and second optical waveguide path; and

at least one optical-carrier phase shifter disposed ~~in~~ on at least one of said first optical waveguide path and second optical waveguide path, for phase shifting said optical carrier

by said required amount of phase shift ~~as required~~;

wherein said first optical double-sideband modulated signal is obtained at the output of said first optical waveguide path, while said second optical double-sideband modulated signal is ~~provided~~ obtained at the output of said second optical waveguide path.

4. (Currently amended) An optical single-sideband modulated signal generator according to claim 1, characterized in that:

said baseband-signal-component 90° phase shifter comprises:

a two-output auxiliary waveguide optical branching unit for further branching said first optical waveguide path to form first auxiliary waveguide path and second auxiliary waveguide path; and

auxiliary optical combiner means for combining the outputs from said first auxiliary optical waveguide path and second auxiliary optical waveguide path;

wherein at least one optical-carrier phase shifter is disposed in at least one of said first auxiliary optical waveguide path and second auxiliary optical waveguide path, for inverting the phase of said optical carrier propagating through said first auxiliary optical waveguide path with respect to said optical carrier propagating through said second auxiliary optical waveguide path; and

wherein an auxiliary optical delay circuit is disposed in said second auxiliary optical waveguide path, ~~in case of combining~~ for delaying, in said auxiliary optical combiner means, ~~for~~

~~delaying~~ said signal baseband component by a time ~~interval~~ length twice longer than a desired time length obtainable by 1/2(f) of a reference baseband frequency range f over which the shift amount of said baseband-signal-component 90° phase shifter is effective.

5. (Currently amended) An optical single-sideband modulated signal generator according to claim 4, characterized in that:

said optical baseband-signal-component 90° phase shifter further comprises:

a second two-output auxiliary waveguide optical branching unit for further branching said one of said first and second optical waveguide paths to form a third auxiliary waveguide path and fourth auxiliary waveguide path;

second auxiliary optical combiner means for combining mutually the outputs from said first auxiliary optical waveguide path and second auxiliary optical waveguide path;

a third two-output auxiliary waveguide ~~optical~~ branching unit disposed for further branching ~~unit~~ said second optical waveguide path to form fifth auxiliary waveguide path and sixth auxiliary waveguide path; and

third auxiliary optical combiner means for combining mutually the outputs from said fifth auxiliary optical waveguide path and sixth auxiliary optical waveguide path;

wherein said optical delay circuit is ~~placed~~ disposed in said fourth auxiliary optical waveguide path;

wherein a second auxiliary optical delay circuit is disposed in said fifth auxiliary optical

waveguide path, ~~in case of combining~~ for delaying, in said third auxiliary optical combiner means, ~~for delaying~~ said signal baseband component by a time ~~interval~~ length four times longer than a desired time length obtainable by 1/2(f) of the reference baseband frequency f over which the shift amount of said baseband-signal-component 90° phase shifter is effective; and

wherein a third auxiliary optical delay circuit is disposed in said sixth auxiliary optical waveguide path, ~~in case of combining~~ for delaying, in said third auxiliary optical combiner means, ~~for delaying~~ said signal baseband component by a time ~~interval~~ length six times longer than the desired time length obtainable by 1/2(f) of the reference baseband frequency range f over which the shift amount of said baseband-signal-component 90° phase shifter is effective.

6. (Currently amended) A single-sideband modulated signal generator according to claim 1, characterized in that:

said baseband-signal-component 90° phase shifter comprises:

an n-output waveguide optical branching unit for further branching said first optical waveguide path into first to n-th (n being an even number) auxiliary optical ~~waveguides~~ waveguide paths which are divided into a first half-number group including at least one auxiliary optical waveguide path not included in said first half-number group so that the number of auxiliary optical waveguide ~~path~~ paths included in said first half-number group is equal to the number of auxiliary optical waveguide ~~path~~ paths included in said second half-number group; and

auxiliary optical combiner means for combining mutually the outputs from said first to n-th auxiliary optical ~~waveguides~~ waveguide paths;

wherein an auxiliary optical-carrier phase shifter is disposed in at ~~lease~~ least one auxiliary optical waveguide path include in at least one of said first and second half-number groups, for inverting the phase of said first and second half number groups, for inverting the phase of said optical carrier of said optical double-sideband modulated signal propagating through said auxiliary optical waveguide path included in said first half-number of groups with respect to the phase of said optical carrier of said optical double-sideband modulated signal propagating through said auxiliary optical waveguide path included in said second half-number group; and

wherein at least one optical delay circuit is disposed in at least one of said first to n-th auxiliary optical waveguide paths, ~~in case of combining~~ for delaying,in said auxiliary optical combiner means, ~~for delaying~~ said signal baseband component by a time ~~interval~~ length even-number times longer than a desired time length obtainable by 1/2(f) of the reference baseband frequency range f over which the shift amount of said baseband-signal-component 90° phase shifter is effective.

7. (Currently amended) An optical single-sideband modulated signal according to claim ~~1~~ 4, characterized in that an optical signal adjuster for adjusting the optical signal amplitude is ~~provided~~ disposed in at least one of said first and second optical waveguide paths ~~and said first to n-th auxiliary optical waveguide paths~~.

8. (Currently amended) An optical single-sideband modulated signal according to claim ~~2~~ 5, characterized in that an optical signal adjuster for adjusting the optical signal amplitude is ~~provided~~ disposed in at least one of said first ~~,~~ ~~and~~ second ~~,~~ third and fourth optical waveguide paths ~~and said first to n-th auxiliary optical waveguide paths~~.

9. (Currently amended) An optical single-sideband modulated signal according to claim ~~3~~ 6, characterized in that an optical signal adjuster for adjusting the optical signal amplitude is ~~provided~~ disposed in at least one of said ~~first and second optical waveguide paths and said~~ first to n-th auxiliary optical waveguide paths.

Claims 10-12, canceled without prejudice.